

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Previously Presented) A method for determining the effect of a plurality of culture conditions on a cell, comprising the steps of:

- a) providing a first set of groups of cell units each comprising one or more cells, and exposing said groups to desired culture conditions;
- (b) pooling two or more of said groups to form at least one second pool;
- (c) subdividing the second pool to create a further set of groups of cell units;
- (d) exposing said further groups to at least one change of culture conditions;
- (e) repeating steps (b)-(d) iteratively; and
- (f) assessing the effect on a given cell unit of the culture conditions to which it has been exposed.

Claims 3-4. (Cancelled)

5. (Currently Amended) A method according to claims ~~1 or~~ 2 wherein cell units are labelled and the label(s) reflect(s) the culture conditions to which the cell unit has been exposed.

6. (Previously Presented) A method according to claim 5, wherein the label is spatially encoded.

7. (Currently Amended) A method according to claims ~~1 or~~ 2, wherein the label is selected from the group consisting of an oligonucleotide, a peptide, a fluorescent compound, a secondary amine, a halocarbon, a mixture of stable isotopes, a bar code, an optical tag, a bead and a radiofrequency encoding tag and a quantum dot.

8. (Currently Amended) A method according to claims ~~1 or~~ 2, wherein the cells are cultured in

cell units, each cell unit comprising one or more cells.

9. **(Original)** A method according to claim 8, wherein the cell units are single cells.

10. **(Original)** A method according to claim 8, wherein each cell unit comprises one or more cells adherent to or bounded by a solid substrate.

11. **(Original)** A method according to claim 10, wherein the solid substrate is a microcarrier or bead.

12. **(Original)** A method according to claim 10, wherein the solid substrate is a well or medium-permeable barrier.

13. **(Currently Amended)** A method according to claims ~~1-2~~ 2, wherein the culture conditions are media to which the cell is exposed.

14. **(Original)** A method according to claim 13, wherein the media contain one or more specific agents which influence a cellular process.

15. **(Currently Amended)** A method according to claims ~~1-2~~ 2, wherein the cell culture conditions comprise culturing at one or more specific temperatures.

16. **(Currently Amended)** A method according to claims ~~1-2~~ 2, wherein the cell culture conditions comprise culturing on one or more specific substrates.

Claims 17-45. **(Cancelled)**